

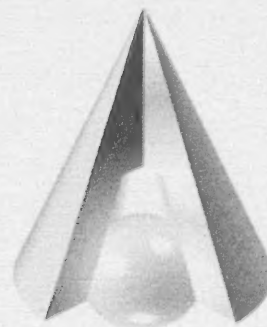
Catalogue no. 11F0019M — No. 363
ISSN 1205-9153
ISBN 978-1-100-25358-9

Analytical Studies Branch Research Paper Series

**Life Satisfaction among Recent
Immigrants in Canada: Comparisons
with Source-country Populations
and the Canadian-born**

by Kristyn Frank, Feng Hou, and Grant Schellenberg

Release date: December 10, 2014



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| 0* | value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded |
| P | preliminary |
| r | revised |
| X | suppressed to meet the confidentiality requirements of the <i>Statistics Act</i> |
| E | use with caution |
| F | too unreliable to be published |
| * | significantly different from reference category ($p < 0.05$) |

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by

Kristyn Frank, Feng Hou, and Grant Schellenberg
Social Analysis and Modelling Division, Statistics Canada

11F0019M No. 363
ISSN 1205-9153
ISBN 978-1-100-25358-9

December 2014

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Abstract

Studies of immigrant well-being primarily focus on economic outcomes. However, immigrants often cite a desire to improve their general quality of life as their main motivation for migrating. This study compares life satisfaction among recent immigrants in Canada with life satisfaction in their country of origin and with the Canadian-born population, and provides an evaluation of the role that national-level economic and social factors play in immigrants' life satisfaction. The results indicate that most immigrant groups have higher life satisfaction than their source-country counterparts. The majority of immigrant groups examined also have life satisfaction scores similar to those of the native-born population, a finding that indicates that national-level conditions matter for immigrants' life satisfaction.

Executive summary

Previous studies of immigrant integration in Canada primarily focus on economic outcomes, overlooking other aspects of immigrant well-being in the host country. Immigrants to Canada often identify non-economic factors as their primary reason for migration, thereby warranting an examination of other aspects of their well-being. Investigating immigrants' self-reported life satisfaction contributes to a more comprehensive understanding of immigrant integration by considering immigrants' own assessments of their lives in Canada.

This analysis compares the life satisfaction of immigrant groups with the life satisfaction of two different populations—immigrants' source-country population and the Canadian-born population. Immigrant life satisfaction is examined at the source-country level, allowing for an assessment of how differences in national-level factors may be associated with their life satisfaction in Canada.

Three research questions are addressed: (1) Compared with their source-country counterparts, are immigrants to Canada more or less satisfied with their life?; (2) If immigrants are more satisfied than their source-country populations, is this associated with a positive change in national-level factors, as measured by levels of economic development and civil liberty?; (3) How does the life satisfaction of immigrant groups compare with that of the Canadian-born population and what accounts for any difference?

This study employs an innovative approach to answering these questions by pooling data from several sources. The data for immigrants and the Canadian-born are from two nationally representative household surveys: the General Social Survey (2008 to 2011) and the Canadian Community Health Survey (2009 to 2011). The data for immigrants' source-country populations are from Waves 3 to 5 of the World Values Survey, conducted between 1994 and 2008. The use of these data sources allows for similar socio-demographic controls to be applied to the different populations studied. This is important as immigrant selection criteria might result in immigrants differing from their source-country populations in ways that are associated with higher levels of life satisfaction (e.g., age, education, health status).

The results suggest that national-level conditions play a role in immigrants' life satisfaction. Larger variations in life satisfaction are observed between source-countries than between immigrant groups in Canada. Most immigrant groups have higher levels of life satisfaction than their source-country populations. These differences decrease for several immigrant groups when socio-demographic factors are controlled, indicating that immigrant selectivity plays a small role in life satisfaction differences. Immigrant groups from lower gross domestic product (GDP) countries tend to have larger life satisfaction differences with their source-country counterparts than immigrant groups from high GDP nations; this relationship is mediated by the level of source-country life satisfaction.

Comparisons with the native-born population indicate that when socio-demographic, economic, and health factors are taken into account, few immigrant groups differ significantly from the Canadian-born in life satisfaction. The lower life satisfaction observed for some immigrant groups may reflect unobserved factors such as sacrifices made for migration (e.g., family separation), a negative reception to immigrants at the local level, or a perceived drop in status due to a shift in their reference group.

1 Introduction

Research on the settlement of immigrants in Canada has often focused on labour market and financial outcomes. But given that immigrants often cite improvements in quality of life as their primary motivation for migrating, it is worthwhile looking beyond economic metrics and considering other outcome measures (Amit 2010; Ziegler and Britton 1981). Immigrants' self-reported satisfaction with their life as a whole is useful in this regard, as it provides an alternative view of outcomes that draws on immigrants' own assessments of their lives.

This analysis compares the life satisfaction of immigrants with the life satisfaction of two comparison groups—non-emigrants in the country of origin and the Canadian-born population in Canada. Three research questions are addressed: (1) Compared with their source-country counterparts, are immigrants to Canada more or less satisfied with their life?; (2) If immigrants are more satisfied than their source-country populations, is this associated with a positive change in national-level factors, as measured by levels of economic development and civil liberty?; (3) How does the life satisfaction of immigrant groups compare with that of the Canadian-born population and what accounts for any difference?

The results indicate that most immigrant groups have higher levels of life satisfaction than their source-country counterparts. These differences decrease only slightly for most groups when various socio-demographic characteristics are taken into account, indicating that immigrant selectivity plays a minor role in explaining differences in life satisfaction scores. By comparison, when socio-demographic, economic, and health factors are taken into account, few immigrant groups differ significantly from the Canadian-born in life satisfaction. Overall, the findings indicate that national-level conditions play an important role in immigrants' life satisfaction.

This paper is organized into five sections. Section 2 summarizes the literature on the relationship between national conditions and life satisfaction. Studies comparing immigrants' life satisfaction with that of their source-country and host-country populations are also reviewed. Section 3 describes the data, measures and methods used in the analysis. Descriptive and multivariate results are presented in Section 4. A discussion of the results in a broader context is provided in Section 5.

2 Review of literature

A common question in the subjective well-being¹ literature is whether life satisfaction is associated with external conditions or internal traits. Analyses of life satisfaction examining national-level factors and internalized cultural dispositions that are passed down generationally indicate that neither can be dismissed (Diener, Suh and Oishi 1997; Senik 2011; Veenhoven 1994).

Cross-national studies have found that variations in life satisfaction can be partly explained by differences in national characteristics. Primarily focusing on differences in national wealth, these studies indicate that individuals residing in wealthy nations have higher happiness levels than those in poorer nations (e.g., Diener, Diener and Diener 1995; Diener and Suh 1999; Inglehart

1. Various terms are used in the subjective well-being literature. Subjective well-being is a generic term used to refer to a range of assessments of life satisfaction (Diener, Helliwell and Kahneman 2010; Helliwell and Wang 2012). "Happiness" is often used synonymously with life satisfaction and the two terms are typically employed in subjective well-being survey questions (Ferrer-i-Carbonell 2005; Selezneva 2011). The literature identifies two aspects of individuals' assessments of "happiness", distinguishing cognitive evaluations of their life as a whole from emotional states or moods such as joy or anger (Diener, Suh, and Oishi 1997). Measures of life satisfaction employed in this study specifically refer to individuals' assessments of life "as a whole", representing the cognitive evaluation of individuals' satisfaction with their life overall. The review of literature for this paper draws on studies that refer to happiness, life satisfaction, and subjective well-being.

1990). While several studies recognize that economic conditions are important to individuals' life satisfaction evaluations, social context is also important (Helliwell et al. 2009). Non-economic factors, such as political freedom, environmental conditions, health care accessibility, and gender and income equality have been studied (Bartram 2011; Bonini 2008; Böhnke 2008; Diener and Suh 1999; Frey and Stutzer 2002; Triandis 2000; Veenhoven and Ehrhardt 1995). These characteristics contribute to a nation's "livability" and can affect happiness at the aggregate level, as different types of individuals in a society may be similarly affected by factors such as services, infrastructure, government stability, and environmental conditions (Bartram 2011, p. 73; Diener and Oishi 2000; Veenhoven 2000a). The degree to which social factors are associated with life satisfaction also varies between nations (Veenhoven 2000b). Böhnke (2008), for example, finds greater life satisfaction in European nations where freedom of association is strong and the government is considered highly reliable.

The immigration literature indicates that the national conditions of immigrants' source countries may account for some of the difference in life satisfaction between different immigrant groups. For example, Bartram (2011) finds lower levels of life satisfaction among immigrants in the United States who came from poorer nations than among those from wealthier nations; specifically, immigrants from Europe and Canada do not differ significantly from the American-born population, while those from Asia, Latin America and Africa report significantly lower levels of life satisfaction. Similarly, Senik (2011) finds that people who migrate to Europe from North America have higher levels of happiness than do those from African and Asian countries.

Studies also indicate that the reference group with which immigrants compare themselves is central to their life satisfaction (Bartram 2011; Stillman et al. 2012). Clark, Frijters and Shields (2008) contend that individuals from poorer nations who retain their source country as their reference group should experience increased life satisfaction. But while recent immigrants tend to compare themselves to individuals in their source countries (Schündeln and Fuchs-Schündeln 2009), reference groups often shift over time to other immigrant groups in the host country or to the native-born population (Bartram 2010, 2011; Mara and Landesmann 2013). Thus, increased satisfaction may be more common among recent immigrants, but may diminish with time in the host country.

The degree to which immigrant groups differ from their source- and host-country populations is the focus of studies of the relative importance of cultural disposition and national-level conditions in life satisfaction. Several studies examine the relationship between cultural traits and level of life happiness inter-generationally or by comparing immigrants with their source-country populations (Inglehart 1990; Oishi and Diener 2001; Rice and Steele 2004; Safi 2010; Senik 2011; Veenhoven 1994). Support for the durability of cultural attitudes is provided by Safi (2010) who finds that both first- and second-generation immigrants have lower levels of life satisfaction than the native-born in European countries. In a study comparing the average life satisfaction of people born in the United States with that of their ancestral nations, life satisfaction scores are similar. However, evidence suggests movement "toward a common well-being score over time" among the American-born groups (Rice and Steele 2004). Therefore, although cultural disposition may provide a "baseline" for life satisfaction assessments, national conditions, social relationships, and individual characteristics also appear to play an important role (Rice and Steele 2004).

Comparisons of the life satisfaction of immigrants with that of their source-country or host-country population can show how national-level factors affect well-being. For example, if a country's general quality of life is the predominant factor, people who move to nations with better economic or social conditions should have higher levels of life satisfaction than people in their source country, and levels similar to those of the native-born population in the host country (Senik 2011; Veenhoven 1994).

Several studies indicate that immigrants generally report lower levels of life satisfaction than native-born populations, even when socio-demographic characteristics are taken into account (Bartram 2011; Burton and Phipps 2010; Safi 2010; Verkuyten 2008). Although this seems to indicate that external conditions related to a nation's quality of life are not highly associated with life satisfaction, the findings are primarily based on broad immigrant/non-immigrant status or on generational indicator variables. More detailed examinations of specific immigrant groups and specific source-country characteristics are needed.

3 Data, measures and methods

3.1 Data

This study pools data from several sources to compare self-reported life satisfaction levels for immigrant groups in Canada and the populations in their source countries. The data for Canada are from two nationally representative household surveys: the General Social Survey (GSS) (2008 to 2011) and the Canadian Community Health Survey (CCHS) (2009 to 2011). The data for the populations in immigrants' source countries are from Waves 3 to 5 of the World Values Survey (WVS), conducted between 1994 and 2008.

The annual GSS targets the Canadian population aged 15 or older. Each GSS contains socio-demographic questions that are common across years, as well as a set of unique questions focusing on specific social or policy issues. The response rates to the four GSS data files used here range from 55% (2010) to 66% (2011). The total sample sizes are 20,401 (2008), 19,422 (2009), 15,390 (2010), and 22,435 (2011).

The annual CCHS also collects standard demographic and socioeconomic data, as well as information about health status, determinants of health, and health service utilization for the household population aged 12 or older. The response rates are 73.1% (2009), 71.5% (2010), and 69.8% (2011). The total sample sizes are 61,673 (2009), 63,197 (2010), and 63,542 (2011). To be consistent with the GSS sample, only CCHS respondents aged 15 or older are included in this analysis.

The four years of GSS data and the three years of CCHS data are combined to increase the sample size and improve the reliability of estimates. Because these surveys have similar designs and were conducted within a four-year period, pooling is feasible and has the advantage of reducing sampling, coverage and measurement errors (Hou 2014, in press; Schenker and Raghunathan 2007). An immigrant group for a source country is only included in the analysis if at least 20 respondents in the Canadian data are members of that group and if the WVS was conducted in the source country. The final sample contains 6,306 recent immigrants, defined as those who arrived in Canada in the previous 10 years, from 43 source countries (Table 1). When immigrants who arrived in Canada in the previous 20 years are included in the analysis, the number of immigrant groups meeting the two criteria increases to 59 and the total immigrant sample increases to 11,276.

Table 1
Average level of life satisfaction of recent immigrants to Canada, by source country

Source country	Observed life satisfaction score			Adjusted life satisfaction score			Sample size	
	Immigrants	Source country	Difference	Immigrants	Source country	Difference	Immigrants	Source country
			mean				number	
New Zealand	7.27	7.79	-0.51	7.28	7.83	-0.55	20	2,099
Colombia	8.18	8.36	-0.19	8.25	8.71	-0.46 ***	171	6,013
The Netherlands	7.50	7.76	-0.26	7.62	8.03	-0.40	43	1,049
Australia	7.47	7.44	0.03	7.58	7.58	0.00	41	3,449
Mexico	8.30	7.90	0.40 ***	8.43	8.38	0.05	181	5,351
Brazil	8.14	7.44	0.70 ***	8.02	7.80	0.22	38	2,640
Turkey	6.79	6.26	0.53	6.90	6.68	0.22	25	6,646
Trinidad and Tobago	7.84	7.33	0.51	7.94	7.60	0.34	38	999
United Kingdom	8.13	7.60	0.54 ***	8.21	7.81	0.40 ***	349	1,038
Vietnam	7.79	6.86	0.92 ***	7.73	7.31	0.42	38	2,474
China	7.35	6.73	0.61 ***	7.50	7.05	0.45 ***	888	4,445
United States	8.09	7.56	0.53 ***	8.14	7.67	0.47 ***	401	3,975
Poland	8.09	7.02	1.07 ***	8.05	7.53	0.52 *	51	989
Japan	7.60	6.71	0.89 ***	7.62	7.08	0.54	44	2,396
Iran	7.33	6.40	0.93 ***	7.35	6.73	0.62 ***	157	5,171
Indonesia	7.65	6.93	0.72 ***	7.98	7.32	0.65 ***	27	2,896
Bangladesh	7.21	6.09	1.12 ***	7.30	6.61	0.70 **	89	2,976
Germany	8.14	7.11	1.03 ***	8.20	7.47	0.73 ***	124	4,073
Argentina	8.65	7.33	1.32 ***	8.60	7.72	0.87 ***	24	3,339
El Salvador	8.76	7.50	1.26 ***	8.79	7.91	0.88 *	20	1,229
Taiwan	7.83	6.57	1.25 ***	7.85	6.87	0.99 ***	41	2,005
Hong Kong	7.72	6.41	1.31 ***	7.80	6.80	1.00 ***	39	1,244
Philippines	8.11	6.75	1.35 ***	8.24	7.23	1.01 ***	853	2,399
Saudi Arabia	8.43	7.28	1.15 ***	8.29	7.25	1.04 ***	28	1,494
Venezuela	8.10	6.72	1.38 ***	8.12	7.03	1.09 ***	30	1,187
Peru	7.99	6.63	1.36 ***	8.36	7.22	1.14 ***	24	4,171
Korea, South	7.50	6.28	1.21 ***	7.63	6.48	1.15 ***	97	2,370
France	8.35	6.91	1.44 ***	8.37	7.20	1.18 ***	182	1,000
Italy	8.53	6.89	1.64 ***	8.67	7.15	1.53 ***	24	1,006
Algeria	7.74	5.67	2.06 ***	7.93	6.34	1.60 ***	87	1,269
Russia	7.50	5.27	2.23 ***	7.71	6.09	1.62 ***	164	4,033
Egypt	7.44	5.55	1.89 ***	7.64	5.93	1.72 ***	59	6,048
India	7.85	5.82	2.04 ***	7.94	6.20	1.73 ***	934	5,859
Nigeria	8.81	6.74	2.07 ***	8.75	6.82	1.92 ***	55	4,011
Morocco	7.69	5.77	1.91 ***	8.02	6.09	1.94 ***	119	3,458
South Africa	8.05	5.77	2.28 ***	8.05	6.07	1.98 ***	98	8,899
Bulgaria	7.79	4.93	2.87 ***	7.62	5.43	2.19 ***	23	2,014
Romania	7.96	5.37	2.59 ***	8.14	5.86	2.28 ***	161	2,892
Ethiopia	7.97	4.99	2.98 ***	8.10	5.53	2.57 ***	28	1,490
Pakistan	7.68	4.85	2.83 ***	7.84	5.23	2.61 ***	295	1,693
Ukraine	7.65	4.42	3.23 ***	7.87	5.23	2.64 ***	106	3,665
Iraq	7.80	4.82	2.98 ***	7.83	5.18	2.65 ***	61	4,995
Zimbabwe	7.75	3.94	3.82 ***	7.94	4.41	3.53 ***	29	1,000

*** significantly different from reference category ($p < 0.001$)

** significantly different from reference category ($p < 0.01$)

* significantly different from reference category ($p < 0.05$)

Notes: Recent immigrants to Canada are immigrants who arrived in Canada in the last 10 years. Countries are ordered by the difference in adjusted life satisfaction scores between immigrants and source countries. Negative values are listed first, followed by the life satisfaction differences from smallest to largest. The observed life satisfaction scores are the average of reported scores by survey respondents. The adjusted levels are calculated from regression models controlling for sex, age, age squared, marital status, education, employment status, self-reported health and whether living in a city with a population 500,000 or more.

Sources: Statistics Canada, General Social Survey, 2008 to 2011, and Canadian Community Health Survey, 2009 to 2011; and World Values Survey, Waves 3 to 5.

The WVS, carried out by an international network of social scientists, collects data about beliefs, values and attitudes from nationally representative samples. Since 1981, nearly one hundred countries have conducted at least one WVS; this study uses Waves 3 to 5. Depending on the country, Wave 3 took place from 1994 to 1998; Wave 4, from 1999 to 2004; and Wave 5, from 2005 to 2008. Only the 43 source countries with at least 20 immigrant respondents in the GSS–CCHS data are included in the analysis. Not all of these countries administered the WVS in all three waves: four have data only from Wave 3; two only from Wave 4; and eight only from Wave 5.² The other 29 countries have data from at least two waves. The WVS sample size at the country level ranges from 989 to 8,899 (Table 1).

These data provide a unique opportunity to disentangle cultural disposition from national conditions when examining predictors of life satisfaction. This is because immigrants share the same cultural traits as their source-country populations but share the same general living conditions, institutions, and freedoms with the native-born population in Canada.

3.2 Measures

The outcome indicator in this study is self-reported life satisfaction. The 2008, 2009 and 2010 GSS asked respondents: *Using a scale of 1 to 10 where 1 means "Very dissatisfied" and 10 means "Very satisfied," how do you feel about your life as a whole right now?* The same question was asked in the 2011 GSS and 2009 to 2011 CCHS, but an 11-point scale was used, with 0 assigned as "very dissatisfied" and 10 as "very satisfied." An evaluation study demonstrated that this slight change in the scale had no impact on the average level of reported life satisfaction or on the correlation between life satisfaction and its common covariates (Bonikowska et al. 2013). The WVS question is somewhat different: *All things considered, how satisfied are you with your life as a whole these days?* A 10-point scale is used, with 1 representing "dissatisfied" and 10 representing "satisfied." The slight difference in wording between the Canadian surveys and the WVS is unlikely to jeopardize the comparability of life satisfaction levels in the two data sources.³ Furthermore, one purpose of this study is to examine whether variations between immigrant and source-country life satisfaction are associated with the economic and social attributes of the source countries. Such variations should not be affected by differences in the scales used for immigrants in Canada and for the source-country population in the WVS as long as the scales are consistent in the Canadian data and in the WVS data.

Seven individual-level variables that can be coded consistently in the Canadian surveys and the WVS (sex, age, marital status, educational attainment, employment status, geographic distribution of residence, and self-assessed health status) are used to control for differences

2. El Salvador has WVS data only from Wave 3. Algeria, Pakistan, Saudi Arabia, and Zimbabwe have WVS data only from Wave 4. Ethiopia, France, Hong Kong, Italy, the Netherlands, Trinidad and Tobago have WVS data only from Wave 5. Venezuela, the United Kingdom and Poland participated in two WVS waves, but data from only one wave were used in this study. The Wave 4 Venezuela survey did not contain self-reported health; the Polish survey did not include employment status; and the Wave 3 United Kingdom survey did not contain self-reported health. Because these variables are needed as demographic controls, these data were not included in the analyses.

3. To examine the potential impact of the slightly different wording in the WVS and the Canadian surveys, mean reported life satisfaction in the 2006 WVS for Canada (a sample size of 2,157) was compared with the 2005 and 2006 GSS (each with a sample size of about 20,000). The average life satisfaction score for Canada in the 2006 WVS was 7.76, which was 0.03 points ($p = 0.130$) higher than in the 2005 GSS and 0.21 points ($p < 0.001$) lower than the level in the 2006 GSS. These differences barely change when differences in age, sex, education, employment status, and geographic distribution are taken into account. By comparison, in 10 Canadian household surveys conducted from 2003 to 2011 that used the same question, average life satisfaction scores ranged from 7.60 to 8.31, and no clear trend emerged (Bonikowska et al. 2013). Therefore, differences in reported life satisfaction are greater among the Canadian surveys than the difference between the WVS and the Canadian surveys. Furthermore, the difference between the WVS and Canadian surveys in average life satisfaction is small relative to what is observed between immigrants in Canada and the population in their source countries (Table 1).

between the socio-demographic characteristics of immigrants to Canada and the population in their source countries. Age is coded as a single year; the squared term of age is included to capture the U-shaped age profile of life satisfaction (Blanchflower and Oswald 2008). Marital status is coded into five categories: married, common-law, widowed, separated or divorced, and single. Education is coded into five categories: university degree, some postsecondary education, high school graduation, less than high school graduation, and education not reported. Employment status is coded into three categories: employed, unemployed, and not in the labour force. Geographic distribution of residence is based on whether the respondent resides in a city with a population of at least 500,000. Self-assessed health status is a five-point ordinal scale in both the Canadian surveys and the WVS; to make the variable more comparable between the surveys, the five-point scale is converted to a four-point scale: 1 (poor), 2 (fair), 3 (good), and 4 (very good).⁴

Two aggregate variables are used in this analysis to represent source countries' economic and social environment. The first is gross domestic product (GDP) per capita based on purchasing power parity (PPP), downloaded from the World Bank.⁵ The 2005-to-2008 average is used. The other measure is the index of civil liberties developed by Freedom House and employed in other studies of subjective well-being (e.g., Böhnke 2008; Rice and Steele 2004).⁶ Again, the 2005-to-2008 average is used. The original civil liberty scale ranges from 1 to 6, with higher scores indicating less civil liberty. For this analysis, the scale is reversed so that higher scores indicate higher levels of civil liberty. GDP (based on PPP) and civil liberties are correlated with a range of national-level characteristics. GDP (PPP) has positive and significant ($p < 0.001$) relationships with life expectancy at birth (Pearson $r = 0.68$), enrolment in tertiary education (percent gross) ($r = 0.67$) and health expenditures per capita ($r = 0.84$) as well as negative and highly significant ($p < 0.001$) relationships with fertility rate (births per woman) ($r = -0.53$) and infant mortality ($r = -0.62$).⁷ The civil liberty measure exhibits similar relationships, although the correlations are slightly weaker. Overall, GDP (PPP) and the civil liberties index are measures of national economic and social development that are reflective of a broad range of conditions and outcomes.⁸

3.3 Methods

This study first compares immigrant groups in Canada with their source-country populations, examining observed and adjusted average levels of life satisfaction. The observed level is the average of life satisfaction reported by respondents in the respective surveys. The adjusted level is estimated from an ordinary least squares (OLS) regression model pooling immigrants from the Canadian household surveys and source-country respondents in the WVS. This model uses life satisfaction as the outcome variable and includes identifiers of immigrant groups and source countries as well as the seven individual-level variables discussed above.

4. In the WVS, the scale is very poor, poor, fair, good, and very good; in the Canadian surveys, the scale is poor, fair, good, very good, and excellent. In the converted four-point scale, very poor and poor are combined as "poor" in the WVS, and very good and excellent are combined as "very good" in the Canadian surveys. Including the converted general health measure as a control variable in multivariate regression models results in a slightly higher adjusted level of life satisfaction for populations in source countries than when the original general health measure is used. However, using the converted or original health measure does not alter general conclusions about the higher average life satisfaction among immigrants than among the source-country populations and the correlates of the differences.
5. <http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD/countries?display=default>, downloaded in February 2013.
6. The civil liberty scale represents freedom of expression, assembly, association, education and religion. Civil liberty data were downloaded from <http://www.freedomhouse.org/> in February 2013.
7. These additional country-level characteristics were derived from the World Bank database (2005-2008 averages).
8. Note that only 3 of the 43 source countries examined in this study have higher GDP per capita (PPP) than Canada (United States, Hong Kong, and the Netherlands). In addition, Canada is assigned the highest score on the civil liberties index, indicating a high level of freedoms (Freedom House 2013). The majority of source countries (35 of 43) examined are classified as having less civil liberty than Canada.

Age, education, employability and health are important selection criteria for immigration to Canada. Inclusion of these variables in the model should remove much of the impact of immigration selectivity on the difference in life satisfaction between immigrants and their source-country populations. In particular, self-assessed health has been used as a "partialing fallacy" device to reduce unobserved heterogeneity, because some individuals are more positive in their perceptions of their life and the world in general (Helliwell 2003; Morrison 2011). Such people would over-report their health status in the same way that they over-report their life satisfaction. Therefore, including an individual's self-assessed health as a control variable should reduce the effect of such bias (Halpern 2005).

The sample weights for each survey are used in the model estimates, although these weights are standardized so that the sum of the weights is the same for the Canadian surveys and the WVS. The standardized weights maintain each survey's representativeness of its target population while ensuring that the Canadian and WVS samples make the same contribution to the model estimation.

In the second step, the difference in the average life satisfaction of immigrant groups in Canada and their source country population ('stayers') is the outcome variable and is regressed on source-country GDP per capita and civil liberty. The average level of life satisfaction in the source country is then added to the model. If inclusion of this variable accounts for the association between the immigrant-stayer life satisfaction differences and source-country characteristics, it indicates that the differences in life satisfaction originate primarily from the variation in life satisfaction among source countries, which, in turn, is related to their level of economic development or civil liberty.

Finally, to explore factors that may contribute to any observed difference between immigrant groups and the Canadian-born population, three OLS regression models are estimated by pooling immigrant and Canadian-born respondents from the Canadian surveys. The first model, which contains no control variables, simply replicates the observed differences in life satisfaction between each immigrant group and the Canadian-born. The second model controls for sex, age, age-squared, marital status, educational attainment, employment status, geographic distribution, and self-assessed health status. The third model controls for additional variables that are available in the Canadian surveys: household income, household size, home ownership and detailed geographic regions.⁹

4 Results

4.1 Differences in life satisfaction between immigrants and source-country populations

Most immigrant groups in Canada have a higher level of life satisfaction than their source-country populations (Table 1). This holds for both the observed and adjusted results (Figures 1 and 2). Among the 43 immigrant groups, 38 have observed life satisfaction scores that exceed those of their source-country populations by more than 0.5 points. Of these, all but two groups

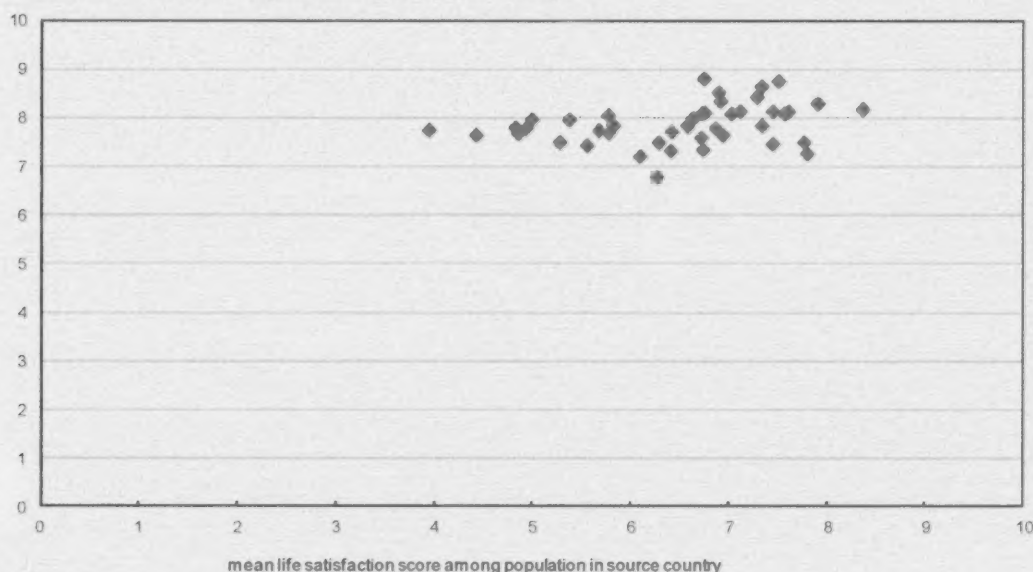
9. Household income is coded as six categories rather than as an interval variable because substantial percentages of respondents reported their household income in broad ranges rather than in exact dollar amounts or did not report their household income. The income categories are lowest (less than \$30,000), lower-middle (\$30,000 to \$59,999), middle (\$60,000 to \$99,999), higher-middle (\$100,000 to \$149,999), high (\$150,000 or more), and missing. Because the household income categories do not take the economies of scale associated with family size into account, household size (square root) was included to control for the reduced consumption needs of additional members. The geographic controls are six geographic regions and seven groups of urban or rural areas.

show statistically significant life satisfaction differences. There is considerable variation in the magnitude of the difference as 12 immigrant groups have an observed level of life satisfaction that is more than 2 points higher than that in their source country, 16 have a level of life satisfaction that is 1 to 2 points higher, and 10 immigrant groups have a level of life satisfaction that is 0.5 to 1 points higher. In the remaining five pairs, the immigrant–stayer difference is less than half a point. Only three immigrant groups in Canada—those from New Zealand, the Netherlands, and Colombia—have slightly lower levels of life satisfaction than their source-country populations.

Adjusting for the socio-demographic characteristics of immigrants and source-country populations tends to reduce immigrant–stayer differences in life satisfaction. For instance, the difference between immigrants from India and the population in India decreases from 2.04 to 1.73 points after adjustment. This suggests that selectivity, as captured by these socio-demographic variables, accounts for some of the difference in life satisfaction between immigrants and source-country populations. Nonetheless, sizable differences remain within most immigrant–source country pairings when selectivity is taken into account.¹⁰

Figure 1
Observed life satisfaction among recent immigrants to Canada and source-country population

mean life satisfaction score among recent immigrants by source country



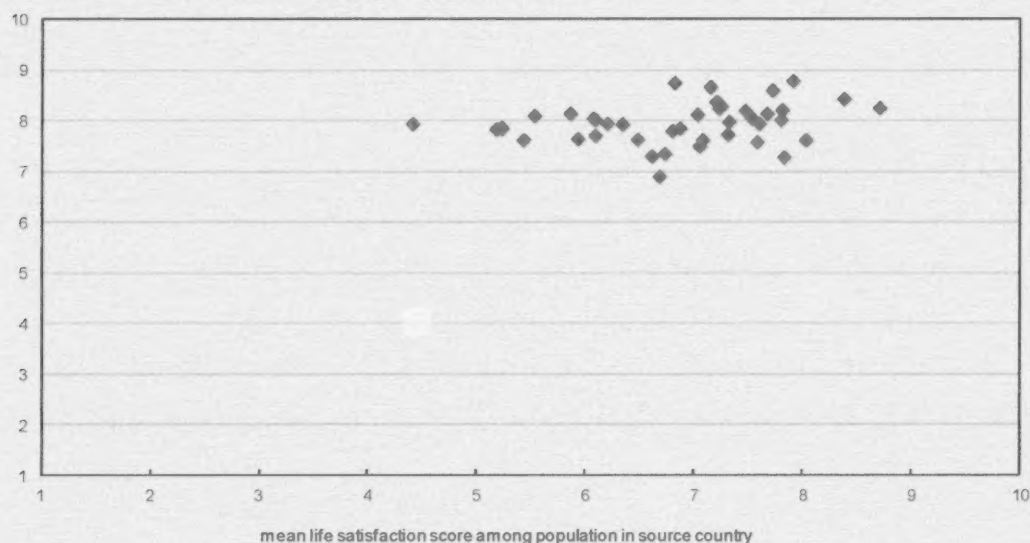
Note: Recent immigrants to Canada are immigrants who arrived in Canada in the last 10 years. This chart shows results for 43 source countries.

Sources: Statistics Canada, General Social Survey, 2008 to 2011, and Canadian Community Health Survey, 2009 to 2011, and World Values Survey, Waves 3 to 5.

10. After taking into account socio-demographic characteristics, the number of immigrant–source country pairings with a difference in average life satisfaction of 0.5 or greater declines from 38 to 31 (of the 43 overall), while the number in which the life satisfaction difference is 0.4 or greater declines from 39 to 35.

Figure 2
Adjusted life satisfaction among recent immigrants to Canada and source-country population

mean life satisfaction score among recent immigrants by source country



Note: Recent immigrants to Canada are immigrants who arrived in Canada in the last 10 years. This chart shows results for 43 source countries, controlling for age, age squared, sex, marital status, education, employment status, self-reported health and residence in a city with a population of 500,000 or more.

Sources: Statistics Canada, General Social Survey, 2008 to 2011, and Canadian Community Health Survey, 2009 to 2011, and World Values Survey, Waves 3 to 5.

These patterns persist when the analysis is extended to include immigrants who have been in Canada for up to 20 years. The extended sample contains 11,276 immigrant respondents from 58 source countries. Most groups have observed and adjusted levels of life satisfaction higher than those of their source-country population (Figures 3 and 4). Only three groups have an observed level of life satisfaction slightly below (0.2 to 0.3 points) that of their source-country population (data available on request).

From a slightly different perspective, the data also show a larger variation in life satisfaction across source countries than immigrant groups in Canada. Across the 43 source countries, average life satisfaction scores range from 3.94 to 8.36, with a standard deviation of 1.03 and a range of 4.4 points. In contrast, across the 43 immigrant groups in Canada, average life satisfaction scores range from 6.79 to 8.81, with a standard deviation of 0.43 and a range of 2.0 points. These patterns are consistent with the view that national contexts influence life satisfaction and that the common experience of life in Canada is associated with a narrowing range of scores across immigrant groups.¹¹

11. If this is the case, one would also expect life satisfaction scores to converge as immigrant groups reside in Canada for longer periods of time. However, this cannot be tested with our pooled cross-sectional data as it is not possible to distinguish cohort differences from assimilation effects. For example, factors affecting the migration decisions of immigrants from Hong Kong who had resided in Canada for 11 to 20 years in our data would differ greatly from those of their counterparts who had arrived within 10 years.

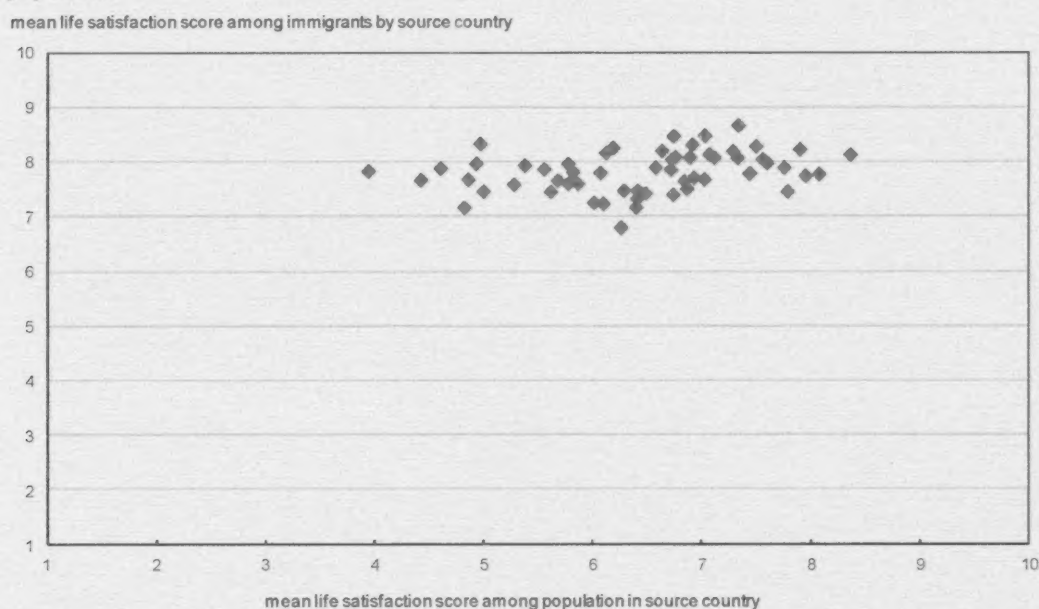
4.2 Accounting for immigrant–stayer differences in life satisfaction

The descriptive analyses indicate that most immigrant groups in Canada have a higher level of life satisfaction than their source-country counterparts, even when socio-demographic factors related to immigrant selectivity are taken into account. However, the differences in life satisfaction are much larger for some groups than for others. At the bivariate level, the immigrant–stayer difference in life satisfaction is strongly and negatively associated with source-country levels of life satisfaction ($r = -0.91$, $p < 0.001$). That is, the immigrant–stayer differences in life satisfaction are mostly influenced by differences in life satisfaction across source countries rather than by differences in life satisfaction among immigrant groups in Canada.

Furthermore, at the bivariate level the immigrant–stayer difference in life satisfaction is significantly associated with both source-country log GDP per capita (PPP) ($r = -0.51$, $p < 0.001$) (Figure 5) and civil liberty ($r = -0.38$, $p < 0.05$). Because source-country log GDP per capita (PPP) is also significantly correlated with civil liberty ($r = 0.54$, $p < 0.001$), their independent association with immigrant–stayer differences in life satisfaction must be examined in a regression model.

Table 2 presents regression models with the adjusted immigrant–stayer differences in life satisfaction as the outcome variable. Model 1 includes source-country log GDP per capita (PPP) and level of civil liberty as the explanatory variables. The adjusted source-country average level of life satisfaction is added in Model 2. Models in the top panel are not weighted; models in the bottom panel are weighted by the sample size of immigrant groups to account for the fact that the immigrant–stayer difference in life satisfaction is estimated more reliably with large sample sizes. The unweighted and weighted regression results are generally similar.

Figure 3
Observed life satisfaction among immigrants to Canada and source-country population

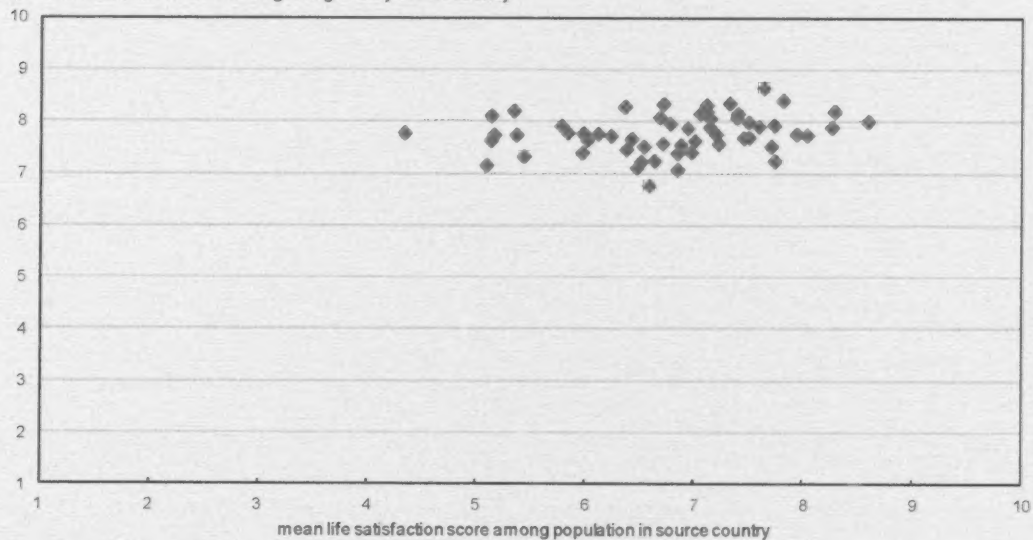


Note: Immigrants to Canada are immigrants who arrived in Canada in the last 20 years. This chart shows results for 58 source countries.

Sources: Statistics Canada, General Social Survey, 2008 to 2011, and Canadian Community Health Survey, 2009 to 2011; and World Values Survey, Waves 3 to 5.

Figure 4
Adjusted life satisfaction among immigrants to Canada and source-country population

mean life satisfaction score among immigrants by source country

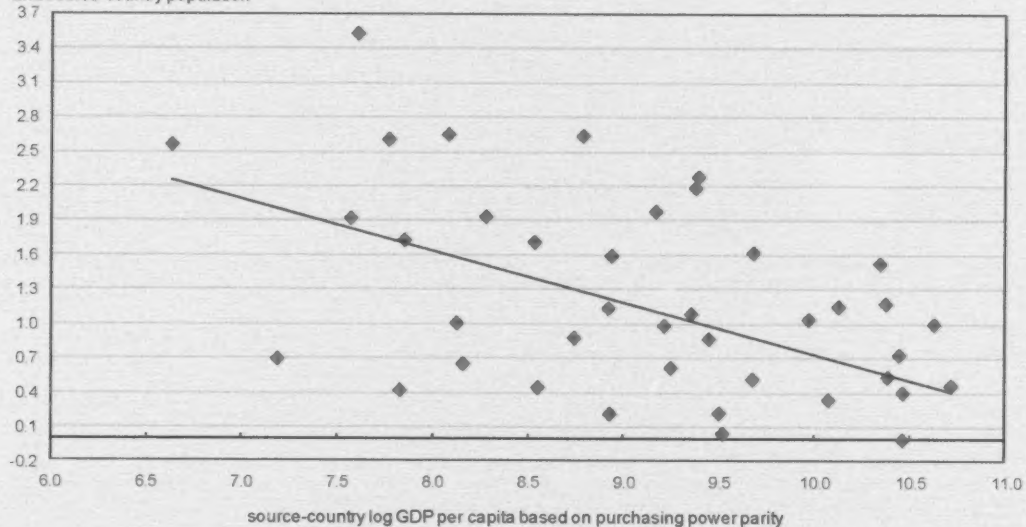


Note: Immigrants to Canada are immigrants who arrived in Canada in the last 20 years. This chart shows results for 58 source countries, controlling for age, age squared, sex, marital status, education, employment status, self-reported health and residence in a city with a population of 500,000 or more.

Sources: Statistics Canada, General Social Survey, 2008 to 2011, and Canadian Community Health Survey, 2009 to 2011, and World Values Survey, Waves 3 to 5.

Figure 5
Adjusted recent immigrant–stayer differences in life satisfaction, by source-country gross domestic product (GDP) per capita

difference in mean life satisfaction score between recent immigrants and source-country population



Note: Recent immigrants are immigrants who arrived in Canada in the last 10 years. This chart shows results for 43 source countries.

Sources: Statistics Canada, General Social Survey, 2008 to 2011, and Canadian Community Health Survey, 2009 to 2011; World Values Survey, Waves 3 to 5; and World Bank, "GDP per capita, PPP (current international \$)" table.

Table 2

Regression coefficients relating source-country civil liberty, gross domestic product per capita and life satisfaction to differences in life satisfaction between recent immigrants to Canada and source-country population

	Model 1		Model 2	
	coefficient	standard error	coefficient	standard error
Unweighted models				
Intercept	4.90 ***	1.17	7.84 ***	0.51
Civil liberty	-0.07	0.08	0.04	0.03
Gross domestic product per capita	-0.38 **	0.14	-0.10	0.07
Source-country life satisfaction	-0.87 ***	0.06
Models weighted by sample size of immigrant groups				
Intercept	4.73 ***	1.13	7.73 ***	0.51
Civil liberty	0.00	0.08	0.09 *	0.03
Gross domestic product per capita	-0.40 **	0.14	-0.09	0.15
Source-country life satisfaction	-0.89 ***	0.06

... not applicable

*** significantly different from reference category ($p < 0.001$)

** significantly different from reference category ($p < 0.01$)

* significantly different from reference category ($p < 0.05$)

Notes: Recent immigrants to Canada are immigrants who arrived in Canada in the last 10 years. Gross domestic product per capita is based on purchasing power parities. The adjusted R-squared values (unweighted models) are as follows: Model 1: 0.237; Model 2: 0.823. The R-squared values (weighted models) are as follows: Model 1: 0.187; Model 2: 0.861.

Sources: Statistics Canada, General Social Survey, 2008 to 2011, and Canadian Community Health Survey, 2009 to 2011; World Values Survey, Waves 3 to 5; and World Bank, "GDP per capita, PPP (current international \$)" table.

When both source-country log GDP per capita (PPP) and civil liberty are included in the same model, only the effect of the former is statistically significant (Model 1). The significant and negative coefficient implies that immigrants who come to Canada from countries with lower GDP per capita tend to have a larger improvement in life satisfaction relative to their source-country population. However, when source-country life satisfaction is included in the model (Model 2), the effect of source-country GDP per capita becomes non-significant. This indicates that the effect of source-country GDP per capita on immigrant-stayer differences in life satisfaction works through its effect on levels of life satisfaction in source countries.¹² When the analysis is extended to include immigrants who have been in Canada for up to 20 years, the results are similar (data not shown).

12. In a separate multivariate model, about one-quarter of the variation in life satisfaction across source countries is accounted for by GDP per capita; the effect of civil liberty is not significant when GDP per capita is taken into account. Again, this suggests that immigrants who come to Canada from countries with lower levels of economic development experience greater improvement in life satisfaction.

4.3 Differences in life satisfaction between immigrant groups and the Canadian-born population

Table 3 presents regression models with immigrant–Canadian-born differences in life satisfaction as the outcome variable. Model 1 includes no control variables and shows the observed difference in life satisfaction between each recent immigrant group and the Canadian-born population. Only three groups (those from Argentina, France and Nigeria) have significantly higher levels of life satisfaction than the Canadian-born, and eight groups have significantly lower levels. The latter eight groups are from countries in Asia, the Middle East and Eastern Europe—the major sources of new immigrants to Canada (see Table 3, Model 1).

In Model 2 (Table 3), sex, age, age-squared, marital status, educational attainment, employment status, geographic distribution, and self-assessed health status are taken into account. Among the three immigrant groups with significantly higher levels of life satisfaction than the Canadian-born, the difference becomes much smaller or non-significant when these factors are controlled for, and two additional immigrant groups have significantly lower levels of life satisfaction than the Canadian-born. The life satisfaction gaps remain or widen for the eight immigrant groups with significantly lower levels than the Canadian-born. While these results suggest that socio-demographic factors largely explain why a few immigrant groups report higher levels of life satisfaction than the native-born population, these factors do not help to explain why some other immigrant groups have a lower level of life satisfaction than the Canadian-born.

Model 3 further controls for household income, household size, homeownership, and more finely defined geographic areas. With the addition of these variables, 32 out of the 43 immigrant groups do not differ significantly from the Canadian-born in average life satisfaction. Only four immigrant groups (Bangladesh, Bulgaria, China, Iran) continue to have significantly lower levels of life satisfaction than the Canadian-born, and the gaps are narrower. As well, three immigrant groups have significantly higher levels of life satisfaction than the Canadian-born (Italy, Mexico, Nigeria). These results suggest that inferior economic positions and concentration in major metropolitan areas partly account for the lower levels of life satisfaction among some recent immigrant groups.

Although most immigrant groups do not differ significantly from the Canadian-born population in life satisfaction, negative coefficients are observed for the majority of groups. Previous research suggests that immigrant status is negatively associated with life satisfaction (e.g., Bonikowska et al. 2013; Burton and Phipps 2010). To further investigate this issue, an immigrant indicator variable was examined in an alternate model. The results indicate a significant and negative relationship between immigrant status and life satisfaction.¹³ A consideration of both sets of results suggests that the negative relationship between immigrant status and life satisfaction may be influenced by certain immigrant groups. That is, the use of an immigrant dummy variable may mask the variation in life satisfaction between groups from different source countries.

13. In Model 1 (no controls), the coefficient for immigrant status is -0.21 ($p < 0.001$); in Model 2 (sex, age, age squared, marital status, education, employment status, self-assessed health, and geographic distribution included in the model) the coefficient is -0.28 ($p < 0.001$); in Model 3 (household income, household size, home ownership and detailed geographic regions added to the model) the coefficient for immigrant status is -0.12 ($p < 0.001$).

Table 3

Regression models examining differences in life satisfaction between recent immigrants to Canada and the Canadian-born population, by source country

	Model 1		Model 2		Model 3	
	coefficient	standard error	coefficient	standard error	coefficient	standard error
Ethiopia	-0.07	0.57	-0.07	0.57	0.28	0.55
Zimbabwe	-0.29	0.40	-0.25	0.52	-0.12	0.49
Bangladesh	-0.82 **	0.27	-0.90 ***	0.25	-0.66 *	0.26
Pakistan	-0.36	0.19	-0.37 *	0.18	-0.14	0.17
Iraq	-0.24	0.31	-0.38	0.27	-0.16	0.28
Vietnam	-0.26	0.28	-0.38	0.26	-0.21	0.27
India	-0.19 **	0.07	-0.29 ***	0.07	-0.10	0.07
Nigeria	0.77 **	0.25	0.50 *	0.25	0.67 *	0.26
Philippines	0.06	0.10	0.01	0.09	0.17	0.09
Egypt	-0.60 *	0.26	-0.48 *	0.21	-0.29	0.20
Indonesia	-0.39	0.26	-0.29	0.21	-0.18	0.22
Ukraine	-0.39	0.22	-0.39	0.21	-0.27	0.21
Morocco	-0.35	0.22	-0.14	0.21	-0.06	0.21
China	-0.69 ***	0.07	-0.69 ***	0.07	-0.53 ***	0.07
Taiwan	-0.22	0.15	-0.30	0.19	-0.16	0.19
El Salvador	0.71	0.39	0.55	0.38	0.78	0.42
Iran	-0.71 ***	0.18	-0.88 ***	0.17	-0.70 ***	0.16
Algeria	-0.31	0.26	-0.31	0.24	-0.16	0.24
Peru	-0.05	0.29	0.18	0.30	0.28	0.27
Colombia	0.13	0.16	0.06	0.18	0.19	0.19
Bulgaria	-0.25	0.28	-0.67 *	0.28	-0.60 *	0.27
Brazil	0.10	0.18	-0.26	0.18	-0.12	0.17
Romania	-0.08	0.12	-0.15	0.11	-0.06	0.10
Argentina	0.61 **	0.22	0.40	0.24	0.45	0.25
South Africa	0.01	0.18	-0.23	0.18	-0.19	0.18
Venezuela	0.06	0.32	-0.16	0.37	-0.05	0.35
Russia	-0.54 *	0.24	-0.49 *	0.21	-0.34	0.22
Turkey	-1.26 *	0.62	-1.20	0.67	-1.01	0.66
Mexico	0.26	0.16	0.19	0.14	0.36 **	0.14
Poland	0.05	0.26	-0.12	0.22	0.06	0.23
Saudi Arabia	0.39	0.30	0.08	0.31	0.21	0.32
Trinidad and Tobago	-0.20	0.29	-0.33	0.28	-0.20	0.28
South Korea	-0.55 *	0.22	-0.48 *	0.20	-0.32	0.20
New Zealand	-0.77	0.48	-1.12	0.58	-1.04	0.59
Hong Kong	-0.32	0.17	-0.34	0.18	-0.20	0.18
Italy	0.49	0.26	0.45	0.25	0.58 *	0.25
France	0.31 *	0.13	0.18	0.11	0.19	0.12
Germany	0.10	0.16	-0.07	0.14	0.02	0.14
Japan	-0.44	0.33	-0.48	0.32	-0.33	0.32
Australia	-0.57	0.43	-0.58	0.48	-0.51	0.48
United Kingdom	0.09	0.09	-0.07	0.09	0.00	0.09
The Netherlands	-0.54	0.45	-0.65 *	0.33	-0.57	0.34
United States	0.05	0.12	-0.15	0.10	-0.05	0.10

*** significantly different from reference category ($p < 0.001$)

** significantly different from reference category ($p < 0.01$)

* significantly different from reference category ($p < 0.05$)

Notes: Recent immigrants to Canada are immigrants who arrived in Canada in the last 10 years. Countries are ordered by gross domestic product (based on purchasing power parity), from lowest to highest. The coefficients are the differences in life satisfaction between immigrant groups and the Canadian-born (the reference group). Model 1 has no controls. Model 2 controls for sex, age, age squared, marital status, educational attainment, employment status, self-assessed health, and whether living in a city with a population of 500,000 or more. Model 3 adds household income, household size, home ownership and geographic regions. The R-squared values are as follows: Model 1: 0.004; Model 2: 0.187; and Model 3: 0.196.

Sources: Statistics Canada, General Social Survey, 2008 to 2011, and Canadian Community Health Survey, 2009 to 2011.

5 Conclusion

Results from this analysis suggest that national-level conditions play an important role in immigrants' life satisfaction. Most immigrant groups in Canada report higher levels of life satisfaction than people in their country of origin, with the magnitude of this difference largest among those who came from countries with lower levels of economic and social development. This finding persists when the sample is extended to include immigrants residing in Canada for up to 20 years. The regression results also indicate that immigrants who emigrated from countries with low levels of economic development show larger differences in life satisfaction relative to their source-country counterparts than immigrants from nations with higher levels of economic development. This relationship is mediated by the level of life satisfaction in the source country. That is, the higher life satisfaction of immigrants who come to Canada from poorer nations is explained by their source country's low average life satisfaction, which is, in part, determined by its level of economic development. These results suggest that external factors are important to immigrants' life satisfaction.

Selectivity is a concern when comparing immigrants with their source-country populations. Canada's points system for immigrant selection results in a concentration of highly skilled immigrants who may not be representative of the general population in their source country. Specifically, they may be more likely to possess characteristics that are highly correlated with happiness such as good health and higher levels of education (Diener and Seligman 2004; Diener, Oishi and Lucas 2003). The life satisfaction gaps between the immigrant and source-country populations decrease slightly when socio-demographic factors are taken into account, but differences remain. Therefore, selection effects based on such characteristics appear to play a small role in the life satisfaction differences between these groups.

Differences between the average life satisfaction of immigrant groups and their source-country populations may also be attributable to unobserved factors. For example, life satisfaction itself may play a role in individuals' decision to migrate. Although some research indicates that individuals with lower levels of happiness are more likely to migrate (Otrachshenko and Popova 2011), others argue that those who lack the financial resources to migrate likely have the lowest levels of satisfaction within source countries (Polgreen and Simpson 2011). In addition, life satisfaction is a significant predictor of whether an immigrant remains in the host country (Massey and Akresh 2006). Immigrants who are unhappy in the host country are more likely to return to their source country or to move to another country. The result is an over-representation of immigrants in the host country with high life satisfaction. Data limitations prevent an examination of this issue in this paper.

Comparisons between the immigrant and Canadian-born populations provide further insight into the importance of national-level conditions to life satisfaction. Research suggests that if quality-of-life factors largely explain variations in life satisfaction, immigrants and the native-born should not differ greatly (Senik 2011; Veenhoven 1994). The presence of large life satisfaction gaps would indicate that changes in national-level factors are less influential, especially if source-country and host-country characteristics are dissimilar.

Comparisons between different immigrant groups and the Canadian-born indicate that most immigrant groups do not differ significantly from the native-born population in life satisfaction when socio-demographic, employment, income and geographic factors are taken into account. Disadvantaged economic positions appear to explain the lower life satisfaction of only a few immigrant groups in Canada. In an alternate model specification, an immigrant status variable was employed. Results from this model are similar to those of Bonikowska et al. (2013), indicating a negative relationship between immigrant status and life satisfaction. These findings suggest that use of a single immigrant status variable may obscure the variations in life satisfaction that exist across different immigrant groups.

The lower life satisfaction scores of some immigrant groups may be attributable to the reception of immigrants in the host country or their approach to integration. For instance, some authors find that immigrants' experience of discrimination in the host country is negatively associated with their life satisfaction (Chow 2007; Houle and Schellenberg 2010; Safi 2010; Ying 1996). Immigrants' experience with anti-immigrant attitudes may also vary regionally, as some research finds that attitudes toward immigrant groups are developed based on factors at the local level, such as the proportion of immigrants or immigrant unemployment rate in the region (Markaki and Longhi 2013). Additionally, higher levels of life satisfaction have been found among immigrants who engage with individuals outside their cultural group (Chow 2007; Phinney et al. 2001; Ying 1996). Consequently, the life satisfaction of some immigrant groups may be affected by their local context and their interaction with other groups in the host country.

Experiences unique to immigrant groups must also be considered when comparing their life satisfaction with that of their source-country population and the native-born population. For example, immigrants who consider migration as the attainment of a goal might experience an increase in life satisfaction following their arrival in the host country. Immigrants' motivation for leaving their source countries may also be related to their life satisfaction. Chow (2007) finds that individuals who migrated from Hong Kong to Canada for economic reasons reported lower life satisfaction than did those who migrated for social, political or educational reasons. Sacrifices immigrants make, such as family separation, or shifts in their relative status in the host country may also play a role (Bartram 2011; Mara and Landesmann 2013).

The results of this study indicate that improvements in national conditions are important to immigrants' life satisfaction. Immigrant groups largely show higher life satisfaction scores than their source-country populations and the majority of immigrant groups do not differ significantly from the Canadian-born in average life satisfaction. The lower life satisfaction observed for some immigrant groups may reflect integration difficulties, the receptiveness of their host-country communities toward immigrants, or a perceived drop in status due to a shift in their reference group. These issues are potential topics for future research.

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